IN THE CLAIMS

Claim 1: (presently amended) A method for sensing a mechanical property of ~~screening~~ a material, the method comprising:

providing a supporting member containing at least one piezoelectric element having an electrode;

placing ~~securing~~ a material ~~sample~~ onto the piezoelectric element wherein the material~~sample~~ is selected from a group consisting of solids, semi-solids, high viscosity fluids, and a combination thereof;

~~directing a force from the piezoelectric element to the sample by~~ applying a voltage to the piezoelectric element through the electrode to direct a force from the piezoelectric element; and

monitoring a response of the material ~~sample~~ to the force with at least one response sensing device, wherein the response of the material ~~sample~~ is indicative of a mechanical property.

Claim 2: (presently amended) The method of claim 1, wherein the material ~~sample~~ has a thickness of less than about 500 microns.

Claim 3: (presently amended) The method of claim 1, wherein the material ~~sample~~ is secured on the piezoelectric element by means selected from a group consisting of mechanically, magnetically, electromagnetically, electromechanically, chemically, and a combination thereof.

Claim 4: (previously presented) The method of claim 1, wherein the at least one response sensing device is selected from a group consisting of an optical response sensing device selected from a group consisting of optical reflectance, optical interferometry, shadow illumination, and a combination thereof; a piezoelectric sensing device comprising ~~of~~ the electrode and a sensor region, and a combination thereof.

Claim 5: (previously presented) The method of claim 1, wherein the piezoelectric element is a bender.

Claim 6: (previously presented) The method of claim 5, further comprising securing the electrode to a backing plate, wherein the bender comprises the backing plate and an appropriately polarized ceramic disk attached to the backing plate.

Claim 7: (previously presented) The method of claim 6, wherein securing the electrode to the backing plate is by means selected from a group consisting of sintering, gluing, fastening, and a combination thereof.

Claim 8: (presently amended) The method of claim 6, wherein the material ~~sample~~ is secured to the backing plate.

Claim 9: (previously presented) The method of claim 1, wherein the piezoelectric element further includes a sensor region and an actuator region that are separate structures connected to each other by a platform.

Claim 10: (presently amended) A method for sensing ~~screening a material for~~ a mechanical property of a material ~~properties~~, the method comprising:

providing a supporting member containing at least one piezoelectric element having an electrode;

~~directing a force from the piezoelectric element by~~ applying a voltage selected from a group consisting of oscillatory, non-oscillatory, and a combination thereof to the piezoelectric element to create a force;

monitoring a response of the piezoelectric element to the force with at least one response sensing device selected from a group consisting of an optical response sensing device selected from a group consisting of optical reflectance, optical interferometry, shadow illumination, and a combination thereof; a piezoelectric sensing device comprising of the electrode and a sensor region, and a combination thereof;

placing ~~securing~~ a material ~~sample~~ onto the piezoelectric element by means selected from a group consisting of mechanically, magnetically, electromagnetically, electromechanically, chemically, and a combination thereof, wherein the material ~~sample~~ is selected from a group consisting of solids, semi-solids, high viscosity

fluids, and a combination thereof, has an area of less than about 50 mm^2 and a thickness of less than about 500 microns;

~~directing a force from the piezoelectric element to the sample by~~ applying the voltage to the piezoelectric element to direct a force from the piezoelectric element; and

monitoring a response of the material ~~sample~~ to the force with the at least one response sensing device, wherein the mechanical properties being sensed ~~screened~~ are selected from a group consisting of flexure, uniaxial extension, biaxial compression, shear, stress and strain at failure, toughness, Young's modulus, complex modulus, and a combination thereof.

Claim 11: (presently amended) The method of claim 10, further comprising regulating environmental conditions of the material ~~sample~~.

Claim 12: (previously presented) The method of claim 10, wherein the piezoelectric element is a bender.

Claim 13: (presently amended) The method of Claim 12, wherein the bender comprises a backing plate and an appropriately polarized ceramic disk attached to the backing plate, wherein the electrode is secured to the backing plate, and the material ~~sample~~ is placed on ~~secured to~~ the backing plate.

Claim 14: (previously presented) The method of claim 10, wherein the piezoelectric element further includes a sensor region and a actuator region that are separate structures connected to each other by a platform.